



Conagua, Mexico

On April 4, 2010, a major earthquake (named El Mayor-Cuapah) hit near the Mexico-USA border registering 7.2 on the Richter scale. The quake caused widespread damage mostly resulting from liquefaction of the fine-grained surface soils prevalent throughout the region. Significant damages were reported by Mexico's National Water Commission (Conagua) to their District 14 "Rio Colorado" canal system, located in Mexicali, Mexico. Over 800 km of canal damage was reported. Pillori Associates was engaged by the insurance carriers to survey the canals and determine the extent and cause of the damage to the canal system.



Large Ground Fissure Running Across the Road Near the Hardy River



Sliding of Land Mass and Cast-in-place Concrete Liner Panels



Liquefaction caused Undulating Surface along the Bank of the Canal in Unit 11



Lateral Spreading Caused the Concrete Panels to Slide and Buckle at the Toe in Unit 11



Liquefaction-induced Lateral Spreading Caused Flattening of the Side Slopes



Lateral Displacement of Concrete Side Panel, Causing Tilting of Flood Gate in Unit 12